AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph beginning at page 9, line 3 with the following substitute paragraph.

The protocol used allowed the detection of DNA of high molecular weight in fermented cocoa beans and chocolate. As negative control coffee and hazelnut DNA were used. To ensure that the DNA extracted from nib and chocolate was derived from cocoa the DNA transferred to the nylon membrane has been hybridized with radioactively labeled cocoa total DNA purified from cocoa tree leaves. The autoradiograph (Figure 1B) indicates positive homology for the cocoa samples from leaves to chocolate which demonstrates that the DNA purified from these samples was originated from cocoa. In Figures 1A and 1B, M indicates molecular size marker (λ/*Hind*III and ϕ174/*Hae*III), A is a DNA control from coffee leaf, B is a DNA control from hazelnut leaf. C is a DNA control from cacao leaf, D is DNA sample from fresh cacao seed embryo, E is a DNA sample obtain with fermented cacao beans, F is a DNA sample from roasted nib, and G is a DNA sample from dark chocolate (Nestlé Noir®).

Please replace the paragraph beginning at page 9, line 16 with the following substitute paragraph.

The 5S intergenic spacer amplifications were successful on all the DNA samples tested from leaves to chocolate (Figure 2). In Figure 2, M indicates molecular size marker in base pairs (λ/*HindIII* and ϕ174/*HaeIII*), 1 indicates cacao leaves, 2 indicates cacao fresh bean, 3 indicates cacao fermented bean, 4 and 5 indicate cocoa roasted nib, 6 and 7 dark chocolate (Nestlé Noir®) and 8 indicates negative control. These PCR DNA amplifications were detected as a faint DNA smear indicating a substantial degradation of the DNA during the processing steps of the cocoa beans with discrete bands to be detected from approximately 160 bp to up than more 1000 bp for the leaf and fresh bean samples. These multiple DNA bands amplification were the result of the tandem repetition organization of the target 5S ribosomal gene.

Please replace the paragraph beginning at page 9, line 23 with the following substitute paragraph.

The part of the SSP gene amplified corresponds to the intron 1 and exon 2 thereof and yields a PCR product of 312 bp in length which may be detected in all the samples tested (Figure 3). In Figure 3, PCR-DNA amplification of intron 1 and exon 2 of Seed Storage Protein gene

(SSP) 1 indicates cacao leaves, 2 indicates cacao fresh bean, 3 indicates cacao fermented bean, 4 and 5 indicate cocoa roasted nib, 6 and 7 indicate dark chocolate (Nestlé Noir®), and 8 indicates negative control. This result allows to consider that it is possible to detect a single DNA gene copy from leaf to chocolate since SSP gene represents a low gene copy number in *Theobroma cocoa* haploid genome (3 to 5 copies).

Please replace the paragraph beginning at page 10, line 4 with the following substitute paragraph.

The goal of this experiment was to demonstrate that it could be possible to get RAPD fingerprint from processed cocoa samples to determine the genetic origin(s) of the raw material used for a chocolate. Three primers were selected from Operon kits and the results are illustrated by ~~the figure~~ Figure 4. In Figure 4, A indicates Z06 primer, B indicates AG 15 primer, and C indicates AM10. Additionally, M indicates molecular size marker (λ/*Hind*III and ϕ174/*Hae*III)), 1, 2, and 3 are cacao leaf samples, 4 and 5 are cocoa samples from Nestlé Noir®, 6 and 7 are cocoa form Vendome®, and 8 indicates the negative control. DNA amplifications were obtained in two different chocolate blends (Nestlé, Grands chocolates, Noir (74% cocoa); Auchan, Vendome Noir (52% cocoa) showing that it is indeed possible to relate the end product to particular raw materials.